UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/342,926	06/30/1999	KAZUYOSHI SUMIUCHI	862.2906	7299

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EXAMINER
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ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,7,12 and 14* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,7,12 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Request For Continued Examination

1.   The request filed on 05/10/04 for a Request For Continued Examination (RCE) Pursuant

to 37 CFR 1.114.based on the Application Serial No. 09/342,926. An action on the RCE follows.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 1-4, 6-7, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Ohta (US Patent No.6,108,008) and Yen et al. (US Patent No. 6,151,025),

Yoshino et al. (US Patent No. 6,204,933 B1), Komatsu (US Patent No. 6,442,662).

As to claim 1, Ohta teaches that an image processing apparatus for generating image data,

having a plurality of color component units, to be outputted by using data conversion, the

apparatus comprising:

A first storage (105 in fig. 9), arranged to store at least one conversion color table,

wherein data of the conversion color table (i.e., LUT 105 in fig. 9) are arranged in grid point

number in each color component unit (i.e. in LUT 105, the data are arranged based on position of

different color space in the three dimensional value including color C, color M, color Y, and

color K,. the conversion table is prepared in advance by measuring colors recorded in the

combination of CMYK unit, col. 13, lines 21-35, and col. 14, lines 38-39);

A converter (111 in fig. 10), arranged to convert the input color data (i.e., input color

data RGB in 110 of fig. 9) to the color component data (i.e., output color data CMYK in 111 of

fig. 9) using the expanded conversion table (since using a data conversion table in the

interpolating method, the color conversion data is expanded to the results of about 4,096 color

measurements. Therefore, using a color conversion table, which is used for interpolating method,

is considered as the expanded conversion table, col. 13, lines 35-37).

However, Ohta does not teach at least one lookup table is compressed.

Yen teaches lookup tables are stored in the memory (ROM) in a compressed format and

decompressed at run time (col. 8, lines 50-54).

It would have been obvious to modify the conversion table of Ohta is stored in the

memory (ROM) in a compressed format and decompressed at run time as taught by Yen. The

suggestion for modifying the system of Ohta can be reasoned by one of ordinary skill in the art

as set forth by Hoshino because the table can be stored in a compressed format which uses

considerably less memory space and faster speed.

However, neither Ohta nor Yen teach sorter arranged to sort data in the expanded color

conversion table.

Yoshino teaches the conversion table data is sorted (col. 9, lines 45-46).

It would have been obvious to modify the conversion table data of the combination of

Ohta and Yen is sorted as taught by Yoshino. The suggestion for modifying the system of Ohta

and Yen can be reasoned by one of ordinary skill in the art as set forth by Yoshino because

Yoshino provides the processing system for processing the color in the printing data for a color

printer in which the conversion data sorted in table that allows the mapping and converting is

easily controlled and processed in the color correction system.

However, Ohta does not explicitly teach data of the color conversion table are arranged

according to a sequential ordering of grid point numbers in each color component unit.

Komatsu teaches the concept of data stored in the conversion table on the order of

sequence (fig. 9, 13, 17, 21, 25, 29 and 35; col. 10, lines 58-63. Thus, data of the color

conversion table are arranged according to a sequential ordering of grid point numbers in each

color component unit).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the color conversion table of Ohta for arranging data according to

a sequential ordering as taught by Komatsu. The suggestion for modifying the color conversion

table of Ohta can be reasoned by one of ordinary skill in the art as set forth above by Komatsu

because the modified system would sequentially order the data in the color conversion table.

Such a modification would allow the image processing system to convert the data by searching

the data in the table in the order.

As to claim 2, Ohta teaches that storage means for storing the expanded color conversion

table data (105 in fig. 7).

As to claim 3, Ohta teaches that the converter (100 in fig. 2) converts color space

(CMYK value, col. 12, lines 45-46).

As to claim 4, Ohta teaches the color component data includes a black color (i.e.,K is the

black data in the color component data CMYK).

As to claim 6, Ohta teaches that an input section (9 in fig. 6) for inputting a command

indicative of print instruction and data indicative of a print medium characteristic (9 and 60 in

fig. 6); and

A selector (5 in fig. 6), for selecting one of expanded conversion tables in accordance

with the data indicative of the print medium characteristic (9 and 60 in fig. 6, col. 12, lines 45-

47).

As to claim 7, the combination of Ohta, Yen, Yoshino, Komatsu teaches the method is

performed by the apparatus claim 1 as indicated above.

As to claim 12, Ohta teaches that an image processing method of compressing a color

conversion table for converting input color data to color component data, having a plurality of

color component units, comprising the steps of:

inputting data of the color conversion table (i.e., LUT 105 in fig. 9) where combinations

of plural color component data are arranged by grid points (i.e. in LUT 105, the data are stored

and arranged based on position of different color space in the three dimensional value including

color C, color M, color Y, and color K,. the conversion table is prepared in advance by

measuring colors recorded in the combination of CMYK unit, col. 13, lines 21-35, and col. 14,

lines 38-39).

However, Ohta does not explicitly teach the conversion table data is sorted so that the

data are arranged according to a sequential ordering of grid point numbers.

Yoshino teaches the data of the color in table is sorted (col. 9, lines 45-46); and

Komatsu teaches the concept of data stored in the conversion table on the order of

sequence (fig. 9, 13, 17, 21, 25, 29 and 35; col. 10, lines 58-63. Thus, data of the color

conversion table are arranged according to a sequential ordering of grid point numbers in each color component unit).

It would have been obvious to modify the conversion table data of Ohta is sorted in the sequential order in the table as taught by Yoshino and Komatsu. The suggestion for modifying the system of Hoshino can be reasoned by one of ordinary skill in the art as set forth by Yoshino and Komatsu because the modified systems provide the processing system for processing the color in the printing data for a color printer in which the conversion data sorted in the sequentially order in table that allows the mapping and converting is easily controlled and processed in the color correction system. Such a modification would allow the image processing system to convert the data by searching the data in the table in the order.

However, Ohta does not teach at least one lookup table is compressed.

Yen teaches lookup tables are stored in the memory (ROM) in a compressed format and decompressed at run time (col. 8, lines 50-54).

It would have been obvious to modify the conversion table of Ohta is stored in the memory (ROM) in a compressed format and decompressed at run time as taught by Yen. The suggestion for modifying the system of Ohta can be reasoned by one of ordinary skill in the art as set forth by Yen because the table can be stored in a compressed format which uses considerably less memory space and faster speed.

As to claim 14, the combinations of Ohta, Yoshino, Komatsu and Yen teaches the programs for processing the method claim 12 as indicated above.

Response to Arguments and Amendment

Applicant's arguments filed 5/10/04 have been fully considered but they are not

persuasive.

The new cited reference of Komatsu teaches the concept of data stored in the conversion

table on the order of sequence (fig. 9, 13, 17, 21, 25, 29 and 35; col. 10, lines 58-63. Thus, data

of the color conversion table are arranged according to a sequential ordering of grid point

numbers in each color component unit).

The teaching of Komatsu would modify the deficiencies of Ohta and/or Yoshino and

Yen.

For the above reasons, it is believed that the cited prior art fully discloses the claimed

invention and the rejection stand.

Conclusion

Applicant's arguments with respect to claims 1-4, 6-7, 12 and 14 have been considered

but are moot in view of the new ground(s) of rejection. This action is made **non-final**.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Douglas Q. Tran whose telephone number is (703) 305-4857 or
E-mail address is Douglas.tran@uspto.gov.
Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Douglas Q. Tran
June 10, 2004